

CHAPTER II

Preliminary Classification:

Proposed Class:

Subclass:

TRANSMITTAL LETTER
TO THE UNITED STATES ELECTED OFFICE (EO/US)

(ENTRY INTO U.S. NATIONAL PHASE UNDER CHAPTER II)

PCT/AU99/00011	12 January 1999 (12.01.99)	31 July 1998 (31.07.98)
International Application Number	International Filing Date	International Earliest Priority Date

TITLE OF INVENTION: Material Support Stand

APPLICANT(S): Neilson, Brad

CERTIFICATION UNDER 37 C.F.R. SECTION 1.10*

(Express Mail label number is **mandatory**.)(Express Mail certification is **optional**.)

I hereby certify that this paper, along with any document referred to, is being deposited with the United States Postal Service on this date 7/12/2000, in an envelope as "Express Mail Post Office to Addressee," mailing Label Number 981120685, addressed to the: Assistant Commissioner for Patents, Washington, D.C. 20231.

Vickie L. Lowe
(type or print name of person mailing paper)

Vickie L. Lowe
Signature of person mailing paper

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Box PCT
Assistant Commissioner for Patents
Washington D.C. 20231
ATTENTION: EO/US

1. Applicant herewith submits to the United States Elected Office (EO/US) the following items under 35 U.S.C. Section 371:

- a. This express request to immediately begin national examination procedures (35 U.S.C. Section 371(f)).
- b. The U.S. National Fee (35 U.S.C. Section 371(c)(1)) and other fees (37 C.F.R. Section 1.492) as indicated below:

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2. Fees

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CLAIMS FEE*	(1) FOR	(2) NUMBER FILED	(3) NUMBER EXTRA	(4) RATE	(5) CALCULATIONS
	TOTAL CLAIMS	13 -20 =	0	x \$18.00 =	\$0.00
	INDEPENDENT CLAIMS	4 -3 =	1	x \$78.00 =	\$78.00
	MULTIPLE DEPENDENT CLAIM(S) (if applicable) + \$260.00				\$0.00
BASIC FEE	U.S. PTO WAS NOT INTERNATIONAL PRELIMINARY EXAMINATION AUTHORITY Where no international preliminary examination fee as set forth in Section 1.482 has been paid to the U.S. PTO, and payment of an international search fee as set forth in Section 1.445(a)(2) to the U.S. PTO: has not been paid (37 C.F.R. Section 1.492(a)(3))\$970.00				\$970.00
	Total of above Calculations				= \$1,048.00
SMALL ENTITY	Reduction by 1/2 for filing by small entity, if applicable. Affidavit must be filed (note 37 CFR Sections 1.9, 1.27, 1.28)				- \$0.00
	Subtotal				\$1,048.00
	Total National Fee				\$1,048.00
	Fee for recording the enclosed assignment document \$40.00 (37 C.F.R. Section 1.21(h)). See attached "ASSIGNMENT COVER SHEET".				\$0.00
TOTAL	Total Fees enclosed				\$1,048.00

*See attached Preliminary Amendment Reducing the Number of Claims.

Please charge Account No. 08-0757 in the amount of \$1,048.00.

A duplicate copy of this sheet is enclosed.

3. A copy of the International application as filed (35 U.S.C. Section 371(c)(2)) has been transmitted by the International Bureau.

Date of mailing of the application (from form PCT/IB/308): 17 February 2000

4. A translation of the International application into the English language (35 U.S.C. Section 371(c)(2)) is not required as the application was filed in English.

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5. Amendments to the claims of the International application under PCT Article 19 (35 U.S.C. Section 371(c)(3)) have been transmitted by the International Bureau.

Date of mailing of the amendment (from form PCT/IB/308): 17 February 2000

6. A translation of the amendments to the claims under PCT Article 19 (38 U.S.C. Section 371(c)(3)) is not required as the amendments were made in the English language.

7. A copy of the international examination report (PCT/IPEA/409))) has been transmitted by the International Bureau.

8. Annex(es) to the international preliminary examination report)) has been transmitted by the International Bureau.

9. A translation of the annexes to the international preliminary examination report is not required as the annexes are in the English language.

10. An oath or declaration of the inventor (35 U.S.C. Section 371(c)(4)) complying with 35 U.S.C. Section 115 is submitted herewith, and such oath or declaration identifies the application and any amendments under PCT Article 19 that were transmitted as stated in Section 3 and/or 5; and states that they were reviewed by the inventor as required by 37 C.F.R. Section 1.70.

II. Other document(s) or information included:

11. An International Search Report (PCT/ISA/210) or Declaration under PCT Article 17(2)(a) has been transmitted by the International Bureau.

Date of mailing (from form PCT/IB/308): 17 February 2000.

12. An Information Disclosure Statement under 37 C.F.R. Sections 1.97 and 1.98 will be transmitted within THREE MONTHS of the date of submission of requirements under 35 U.S.C. Section 371(c).

13. Additional documents:

a. Preliminary amendment (37 C.F.R. Section 1.121)

14. The above items are being transmitted before 30 months from any claimed priority date.

AUTHORIZATION TO CHARGE ADDITIONAL FEES

(Transmittal Letter to the United States Elected Office (EO/US)--page 4 of 5)

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The Commissioner is hereby authorized to charge the following additional fees that may be required by this paper and during the entire pendency of this application to Account No.: 08-0757

37 C.F.R. Section 1.492(a)(1), (2), (3), and (4) (filing fees)

37 C.F.R. Section 1.492(b), (c), and (d) (presentation of extra claims)

37 C.F.R. Section 1.17 (application processing fees)

37 C.F.R. Section 1.17(a)(1)-(5) (extension fees pursuant to Section 1.136(a))

37 C.F.R. Section 1.492(e) and (f) (surcharge fees for filing the declaration and/or filing an English translation of an International Application later than 20 months after the priority date).

Date:

July 12, 2000

James Earl Lowe, Jr.

James Earl Lowe, Jr.
Registration No. 30402
15417 W. National Ave. #300
New Berlin, WI 53151
414-427-0298
Customer No. 006123

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In Claim 12, delete any one of claims 1 to 3 or 5 to 11 and insert —Claim 2—.

Date:

James Earl Lowe, Jr.
Registration No. 30402
15417 W. National Ave. #300
New Berlin, WI 53151
414-427-0298
Customer No. 006123

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1

Materials Support Stand**Field of the invention**

This invention relates to a materials support stand which may be used to support materials and equipment used in underground mining operations.

5 Background of the invention

Underground mining operations are frequently carried out in cramped and hazardous conditions and it is important that materials and equipment used in the operation are kept well ordered and readily accessible to ensure that the operation can be carried out as smoothly as possible. Modern mining techniques have increased the mechanisation of the mining operation and large underground mining machines are frequently employed to carry out many of the operations which were previously carried out by individuals using hand held equipment.

One modern advance is to provide a vehicle which carries out semi-automated roof bolting operations. The equipment carried on such vehicles is highly automated but workers are still required to change drill rods, insert roof bolts into the machine, and operate the apparatus. It is important that such workers have materials and equipment readily available to them so they are not inconvenienced having to locate items on the floor or the machine during the bolting operation or walk between the bolting apparatus and a storage facility.

Summary of the invention

According to the invention there is provided an equipment support stand adapted to be used on an underground mining machine which includes at least one apparatus thereon which will utilise a plurality of interchangeable items, said stand comprising:

a base adapted to stand on a surface of a said machine adjacent to said apparatus;

an upstanding rack mounted to said base, the rack being shaped and configured to hold and/or support said items; and

securing means for releasably securing said base to said surface; and wherein there are at least a pair of arms aligned generally side by side with each other and defining a space therebetween in which said items can be located.

According to another aspect of the invention there is provided an equipment support stand adapted to be used on an underground mining machine which includes at least one apparatus thereon which will utilise a plurality of interchangeable items, said stand comprising: a base adapted to stand on a surface of a said machine adjacent to said apparatus; an upstanding rack mounted to said base, the rack being shaped and configured to hold and/or support said items; securing means for releasably securing said base to said surface; and said equipment support stand is adapted to be coupled back to back with another stand to provide for double storage capacity.

According to another aspect of the invention there is provided an equipment support stand adapted to be used on an underground mining machine which includes at least one apparatus thereon which will utilise a plurality of interchangeable items, said stand comprising: a base adapted to stand on a surface of a said machine adjacent to said apparatus; an upstanding rack mounted to said base, the rack being shaped and configured to hold and/or

support said items; securing means for releasably securing said base to said surface; and including one or more pegs projecting upwardly at an inclined angle to the horizontal, said pegs adapted to support annular items or items having holes or bores therethrough.

According to another aspect of the invention there is provided an equipment support stand adapted to be used on an underground mining machine which includes at least one apparatus thereon which will utilise a plurality of interchangeable items, said stand comprising: a base adapted to stand on a surface of a said machine adjacent to said apparatus; an upstanding rack mounted to said base, the rack being shaped and configured to hold and/or support said items;

securing means for releasably securing said base to said surface; said securing means comprises a plurality of clamps which incorporate a hook formation adapted to pass through an aperture in said surface of said machine and hook beneath said surface to thereby rigidly fix the support stand to the surface.

The upstanding rack may comprise a frame having one or more arms projecting laterally therefrom to at least one side thereof, said items in use being held in position by said arms. Preferably there are at least a pair of arms aligned generally side by side with each other and defining a space therebetween in which said items may be located.

The equipment stand may be adapted to be coupled back to back with another stand to provide for double storage capacity as well as to provide access from at least two sides.

Optionally the stand may include one or more magnetic clamps for holding ferrous metal items to the stand. The stand may include one or more pegs projecting upwardly at an inclined angle to the horizontal, said pegs adapted to support annular items or items having holes or bores therethrough.

The securing means may comprise a plurality of clamps which incorporate a hook formation adapted to pass through an aperture in said surface of said machine and hook beneath said surface to thereby rigidly fix the support stand to the surface. The hook formation may be tensionable by an over centre locking lever connected thereto which, when tensioned, will tightly clamp the stand to the surface.

Various embodiments of the invention are described below by way of examples. In the descriptive references made to the accompanying drawings but these specific features shown in the drawings should not be construed as limiting on the invention.

When used in this specification, the term "comprises" or "comprising" should be interpreted inclusively rather than exhaustively or exclusively.

Brief description of the drawings

Figure 1 shows a perspective view of a mining machine having an equipment stand according to the invention mounted thereon.

Figure 2 shows a perspective view of a first embodiment of equipment stand according to the invention.

Figure 3 shows a side view of equipment stand shown in figure 2.

Figure 4 shows a perspective view of a second embodiment of an equipment stand according to the invention.

Figure 5 shows a side view of the stand shown in figure 4.

Figure 6 shows two equipment stands similar to that shown in figure 4 mounted together in back to back arrangement.

5 Detailed description of the embodiments

Referring initially to figure 1, a mining machine 10 is shown having a platform 12 which is supported on a pair of endless drive tracks 14 and which carries a series of bolting rigs 16 on the forward end thereof for installing roof and rib bolts in a mine entry. A pair of temporary support members 18 are adjacent to the bolting rigs 16. Power and control apparatus indicated generally at numeral 20 is mounted towards the rear of the platform 12 and a removable storage pod 22 is also mounted towards the rear of the platform. The storage pod 22 has compartments 24 therein into which various consumable items such as roof and rib bolts, washers, resin capsules and the like will be stored. In addition, the machine will carry a supply of replacement drill rods so that the drilling operations and bolting operations can be carried out in a relatively uninterrupted fashion.

Each of the drill rigs 16 has a control station 26 associated therewith for controlling the drilling and bolting operations.

The platform 12 defines a generally flat work area 28 and operators will stand on the work area 28 to operate the individual control stations 26 for the bolting rigs 16. Preferably the work area 28 is formed from a welded or expanded metal mesh material, as is commonly used for work platforms.

To assist the operators it is necessary to have consumable items and other materials and equipment used in the bolting and drilling operation close at hand. Individual operators will generally want the equipment and materials for which they are responsible arranged in a particular fashion and located immediately adjacent to them whilst they are standing at the operator stations 26 so the operators do not need to move back to the storage pod 22 or storage tables 30 located above the drive apparatus 20 each time an item of equipment is required.

To assist the operator an equipment stand, indicated diagrammatically in figure 1 at numeral 32 is provided. Generally there will be an equipment stand 32 associated with each of the operator stations 26 and those equipment stands 32 will be positioned by individual operators so as best to suit their individual mode of operation. Although in figure 1 only a single equipment stand 32 is shown it is envisaged that there will be at least three equipment stands on the platform 12 and possibly four such stands.

Embodiments of the stand are shown in more detail in figures 2 to 6 of the drawings. Referring initially to figures 2 and 3, an equipment stand is shown having a base 36 which has a lower compartment 38 mounted thereto and an upstanding rack 40 extending vertically thereabove. Rack 40 comprises a pair of uprights 42 which terminate in a cross piece 44 at the upper end of the rack. A pair of arms 46 project forwardly from the cross piece 44 and provide a space 48 into which rib bolts and the like may be supported and retained. A chain 50 is provided for retaining bolts within the space 48. The lower end of the bolts will locate in the bin 38. Towards each side of the rack is a U-shaped bracket 52 shaped to accommodate a drill rod therein. The lower end of the drill rods will locate in square sockets 54 secured to the base of the stand.

Three wedge or other shaped hooks 56 are mounted to the base 36 and are connected to over centre locking clamps 58. The hooks 56 are adapted to locate below platform 12 to secure the stand in position. Platform 12 will generally have a mesh or like covering material and the hooks 56 will locate below that mesh. The over centre clamps 58 will then be used to tension the hooks 56 pulling the wedged shaped end up against the underside of the mesh. With the three hooks tightly clamped in position the stand will be securely held and therefore will not fall over during bolting operations or whilst the machine is being moved from one location to another.

Turning now to figures 4 and 5 of the drawings, a similar stand is shown and this stand includes a rectangular shaped bracket 60 at the upper end of the frame 62, the bracket 60 being similarly shaped to the bin 64. The bracket 60 and bin 64 are in alignment with each other so that a rectangular slot is provided which is adapted to receive a box of resin capsules. The box will be retained in position by the bracket 60 and individual resin capsules can be removed from the box from upper end thereof as and when required for bolting operations. The stand shown in figure 4 includes three arms or pegs 66 which extend upwardly from the rack 62 and provide pegs on which items such as washers, nuts, butterfly plates and other items of annular configuration or which have holes therethrough, can be located and held in position on the rack. It will be noted that each of the pegs 66 is upwardly inclined to ensure that items located thereon do not inadvertently become dislodged as the machine vibrates in use or moves around.

The stand shown in figures 4 and 5 is shown having a pair of side by side drill rod retaining brackets 68, each of which has a magnetic clamp 70 associated therewith. The drill rods will be placed into the rectangular sockets 72 and upper end of the drill rods will be clamped in position by the magnetic clamps 70. It is envisaged that the magnetic clamp 70 will comprise rare earth magnets which will ensure that a reasonably high force of attraction exists between the magnetic clamp and the drill rod. It will be a simple matter to remove the drill rod from the bracket 68 by pulling on it and therefore this will provide a relatively quick arrangement for retaining drilling rods in position on the stand yet having the drill rods readily available for use as and when required.

Turning now to figure 6, two of the stands are the type shown in figures 4 and 5 have been joined together back to back to provide a larger capacity stand which can be used from opposite sides thereof. The stand includes clamps 74 for clamping a combined stand in the centre of the platform 12 adjacent to the two central bolting rigs 16. A combined stand shown in figure 6 has many of the features of the stand that is shown in figures 4 and 5.

Clearly, for different mining operations, different features may be required on the stands. The quick and simple arrangement by means of which the stand is securely clamped to a platform is considered to be advantageous particularly since it allows the stand to be moved from one location to another location on the platform without the use of special tools or the like. Clearly other forms of hook arrangements might be used if the wedged shaped arrangements as shown in the drawings are not suitable for a particular platform configuration.

Claims

1. An equipment support stand adapted to be used on an underground mining machine which includes at least one apparatus thereon which will utilise a plurality of interchangeable items, said stand comprising:
a base adapted to stand on a surface of a said machine adjacent to said apparatus;
an upstanding rack mounted to said base, the rack being shaped and configured to hold and/or support said items;
securing means for releasably securing said base to said surface; and
wherein there are at least a pair of arms aligned generally side by side with each other and defining a space therebetween in which said items can be located.
2. An equipment support stand adapted to be used on an underground mining machine which includes at least one apparatus thereon which will utilise a plurality of interchangeable items, said stand comprising:
a base adapted to stand on a surface of a said machine adjacent to said apparatus;
an upstanding rack mounted to said base, the rack being shaped and configured to hold and/or support said items;
securing means for releasably securing said base to said surface; and
said equipment support stand is adapted to be coupled back to back with another stand to provide for double storage capacity.
3. An equipment support stand adapted to be used on an underground mining machine which includes at least one apparatus thereon which will utilise a plurality of interchangeable items, said stand comprising:
a base adapted to stand on a surface of a said machine adjacent to said apparatus;
an upstanding rack mounted to said base, the rack being shaped and configured to hold and/or support said items;
securing means for releasably securing said base to said surface; and
including one or more pegs projecting upwardly at an inclined angle to the horizontal, said pegs adapted to support annular items or items having holes or bores therethrough.
4. An equipment support stand adapted to be used on an underground mining machine which includes at least one apparatus thereon which will utilise a plurality of interchangeable items, said stand comprising:
a base adapted to stand on a surface of a said machine adjacent to said apparatus;
an upstanding rack mounted to said base, the rack being shaped and configured to hold and/or support said items;
securing means for releasably securing said base to said surface;
said securing means comprises a plurality of clamps which incorporate a hook formation adapted to pass through an aperture in said surface of said machine and hook beneath said surface to thereby rigidly fix the support stand to the surface.
5. An equipment support stand as claimed in any one of claims 1 to 4, wherein said upstanding rack comprises a frame having one or more arms projecting laterally therefrom to at least one side thereof.

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6. An equipment support stand as claimed in any one of claims 1 to 5, wherein said items in use are held in position by said arms.
7. An equipment support stand as claimed in any one of claims 2 to 6, wherein there are at least a pair of arms aligned generally side by side with each other and defining a space therebetween in which said items can be located.
8. An equipment support stand as claimed in any one of claims 1 or 3 to 7, being adapted to be coupled back to back with another stand to provide for double storage capacity.
9. An equipment support stand as claimed in any one of claims 1 to 8 being adapted to be coupled back to back to provide access from at least two sides.
10. An equipment support stand as claimed in any one of claims 1 to 9, including one or more magnetic clamps for holding ferrous metal items to the stand.
11. An equipment support stand as claimed in any one of claims 1, 2 or 4 to 10, including one or more pegs projecting upwardly at an inclined angle to the horizontal, said pegs adapted to support annular items or items having holes or bores therethrough.
12. An equipment support stand as claimed in any one of claims 1 to 3 or 5 to 11, wherein the securing means comprises a plurality of clamps which incorporate a hook formation adapted to pass through an aperture in said surface of said machine and hook beneath said surface to thereby rigidly fix the support stand to the surface.
13. An equipment support stand as claimed in claim 4 or 12, wherein said hook formation is tensionable by an over centre locking lever connected thereto which, when tensioned, will tightly clamp the stand to the surface.

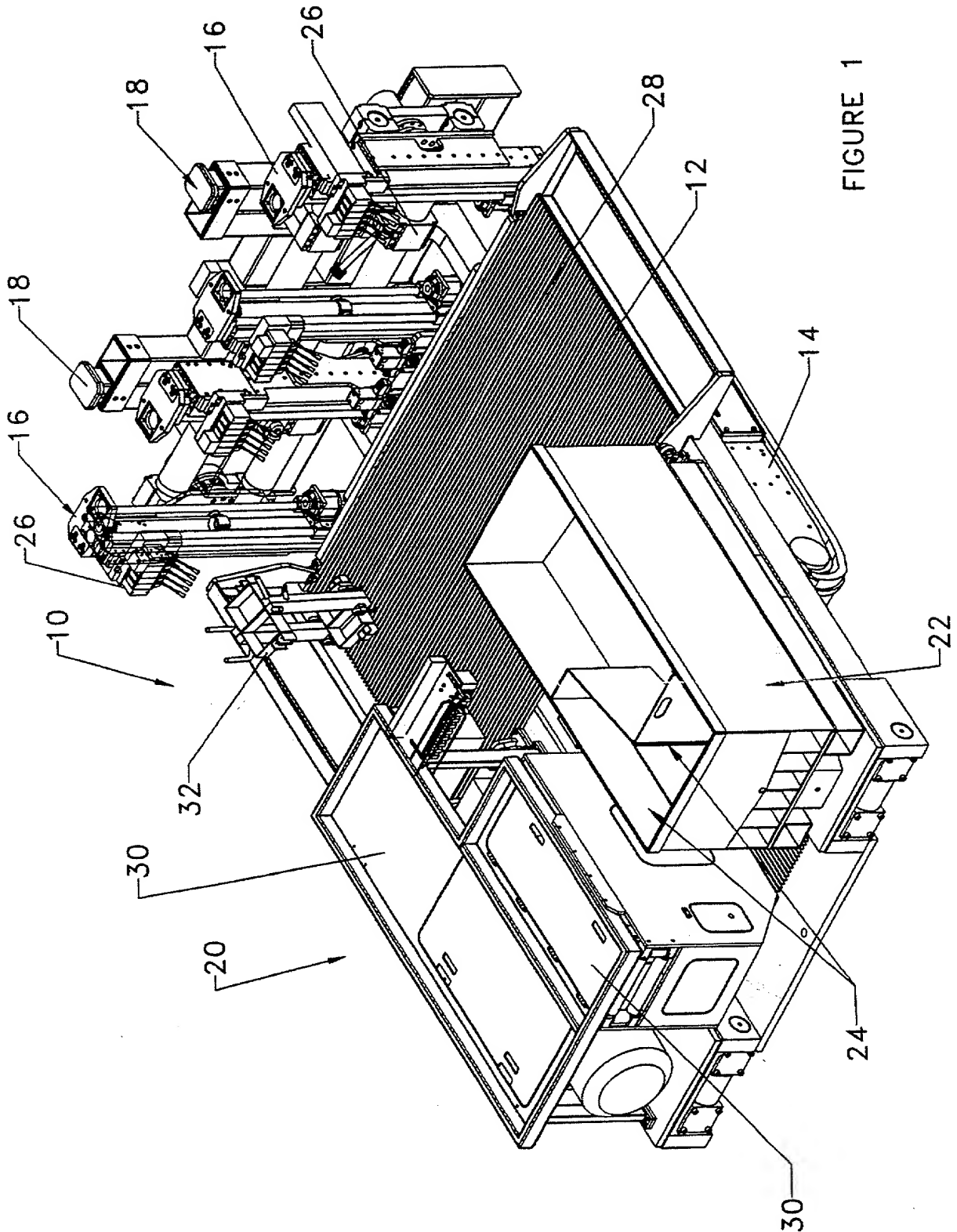


FIGURE 1

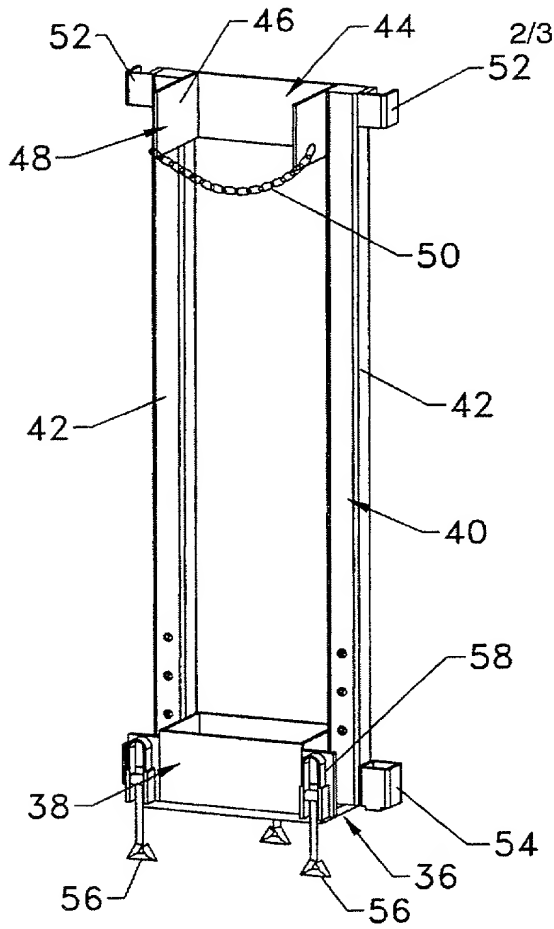


FIGURE 2

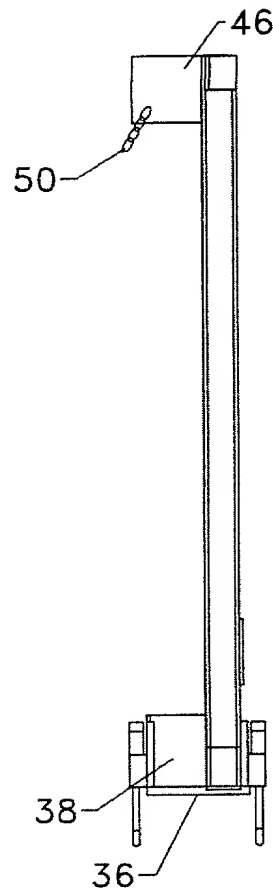


FIGURE 3

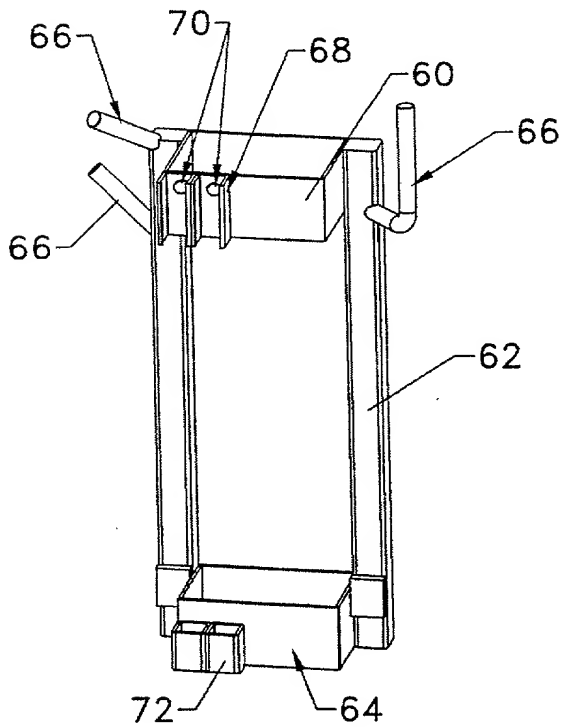


FIGURE 4

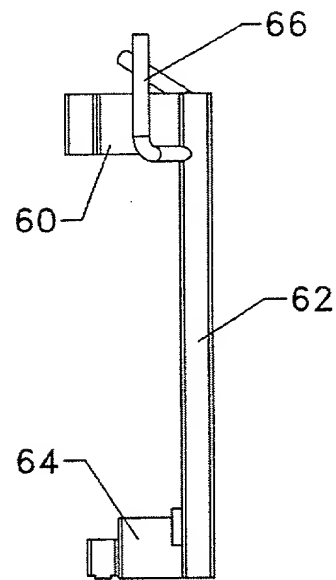


FIGURE 5

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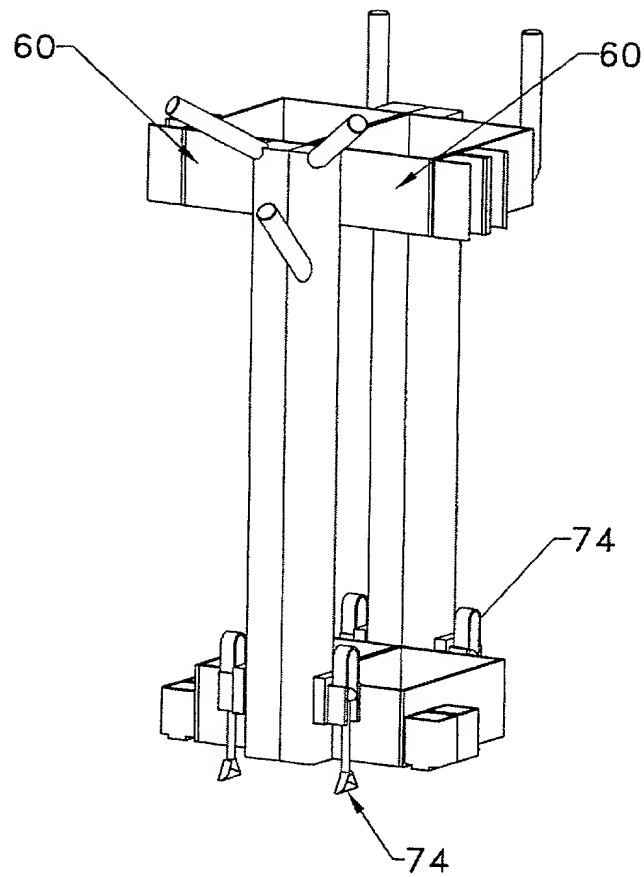


FIGURE 6

COMBINED DECLARATION AND POWER OF ATTORNEY

(ORIGINAL, DESIGN, NATIONAL STAGE OF PCT, SUPPLEMENTAL, DIVISIONAL,
CONTINUATION, OR C-I-P)

As a below named inventor, I hereby declare that:

TYPE OF DECLARATION

This declaration is for a national stage of PCT application.

INVENTORSHIP IDENTIFICATION

My residence, post office address and citizenship are as stated below, next to my name. I believe that I am the original, first and sole inventor (*if only one name is listed below*) or an original, first and joint inventor (*if plural names are listed below*) of the subject matter that is claimed, and for which a patent is sought on the invention entitled:

TITLE OF INVENTION

Material support stand

SPECIFICATION IDENTIFICATION

The specification was described and claimed in PCT International Application No. PCT/AU 99/00011 filed on January 12, 1999.

ACKNOWLEDGMENT OF REVIEW OF PAPERS AND DUTY OF CANDOR

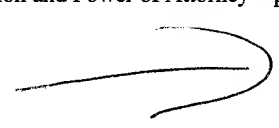
I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information, which is material to patentability as defined in 37, Code of Federal Regulations, § 1.56.

PRIORITY CLAIM (35 U.S.C. § 119(a)-(d))

I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a)-(d) of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the

(Declaration and Power of Attorney—page 1 of 3)



same subject matter having a filing date before that of the application(s) of which priority is claimed.

Such applications have been filed as follows.

**PRIOR FOREIGN APPLICATION(S) FILED WITHIN 12 MONTHS
(6 MONTHS FOR DESIGN) PRIOR TO THIS APPLICATION
AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. § 119(a)-(d)**

COUNTRY	APPLICATION NUMBER	DATE OF FILING DAY, MONTH, YEAR	PRIORITY CLAIMED UNDER 35 USC 119
PCT	PCT/AU/99/00011	12/01/99	yes

**ALL FOREIGN APPLICATION(S), IF ANY, FILED MORE THAN 12 MONTHS
(6 MONTHS FOR DESIGN) PRIOR TO THIS U.S. APPLICATION**

Australia PP4969 31/07/98

POWER OF ATTORNEY

I hereby appoint the following practitioner(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

James Earl Lowe, Jr.

Registration Number 30,402

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→

SEND CORRESPONDENCE TO:

DIRECT TELEPHONE CALLS TO:

James Earl Lowe, Jr.
(414) 486-6872

James Earl Lowe, Jr.
PO Box 554

Milwaukee, WI 53201-0554

Customer Number 6123

DECLARATION

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

SIGNATURE(S)

Brad Neilson

Inventor's signature

Date 10-9-99

Residence Gwynneville, New South Wales, Australia

Post Office Address 15 Frances Street

Gwynneville, New South Wales, 2500 Australia

Country of Citizenship Australia

AUX

